UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/401,439	09/22/1999	USAMA M. FAYYAD	1018.057US1	4688

7590   07/15/2003

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ART UNIT	PAPER NUMBER
3623	

DATE MAILED: 07/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	**Applicant(s)**
Office Action Summary	09/401,439	FAYYAD ET AL.
	Examiner	**Art Unit**
	C. Michelle Colon	3623

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address*

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>26 March 2003</u>.

2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1,6,7,10-13,15-17,19-29,31-39,45-50 and 58-60</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) <u>1,6,7,10-13,15-17,19,20 and 58</u> is/are allowed.

6) ☒ Claim(s) <u>21-29,31-39,45-50,59 and 60</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
        application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on March

26, 2003 has been entered.

Claims 2-5, 8, 9, 14, 41-44, 61, 62 and 64 have been cancelled. Claims 1, 6, 7,

Claims 1, 6, 7, 10-13, 15-17, 19-29, 31-39, 45-50 and 58-60 are now pending in this

application.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

3.   Claims 47-50 are rejected under 35 U.S.C. 112, first paragraph, as based on a

disclosure which is not enabling. Analysis of *how a comparison of observed responses*

across different segments results in the detection of an error is critical or essential to the

practice of the invention, but not included in the claim(s) is not enabled by the

disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976). One of

ordinary skill in the art would require an additional step for determining how to detect an

error based on a mere comparison of data. Some type of analysis of the comparison of

the data (i.e., a determination of a deviation from an average or a norm) to

qualify/quantify the comparison is required before a detection of an error can be

determined. Furthermore, performing an analysis step on the comparison of the

observed responses determines what constitutes an error.

Claim Rejections - 35 USC § 102

4.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5.   Claims 21 and 59 are rejected under 35 U.S.C. 102(e) as being anticipated by

Almasi et al. (U.S. 6,260,036).

As per claims 21 and 59, Almasi et al. discloses a method and machine-readable

medium of personalizing marketing resources, comprising:

providing a data mining engine capable of being trained with training data and

capable thereafter of performing inferences relative to the training data (col. 1, lines 46-

63; col. 9, lines 20-27; Figure 5; The reference discloses a data mining engine used for

training data to learn relationships among the data.);

providing a user database for correlating observed characteristics of each one of

a set of users with a set of adaptable marketing features, the observed characteristics

comprising at least one of: (a) at least one of the user's attributes, and (b) at least one of the user's preferences (col. 3, lines 20-38; col. 13, lines 13-29; The reference discloses a user database for correlating user characteristics.);

training the data mining engine with a set of training data comprising the user database by clustering the users in the database into user segments with similar observed characteristics (col. 2, line 65-col. 3, line 38; col. 13, lines 13-29; The reference discloses clustering users in a database into user segments with similar characteristics.);

inputting to the data mining engine a set of user attributes of one of: (a) a particular user, or (b) a particular group of users (col. 13, line 63-col. 14, line 52); and, in response thereto, obtaining from the data mining engine a subset of the adaptable marketing features having the highest correlation to the set of user attributes by determining which of the user segments identified during the training of the data mining engine has characteristics that are statistically correlated with the set of user attributes; and wherein the subset of adaptable marketing features is determined based upon the preferences of users in the user segments statistically correlated to the set of user attributes (col. 13, lines 13-29; col. 14, lines 44-52; col. 15, lines 7-12; The reference discloses clustering users in a database to determine the groups of users that are mathematically correlated to particular marketing strategies based on their specific characteristics.).

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 22-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Almasi et al. (U.S. 6,260,036) as applied to claim 21 above.

As per claims 22-29, Almasi et al. does not expressly disclose the method of

claim 21, further comprising:

a presentation to be directed to the particular user or group of users comprising

marketing features contained within the subset of marketing features; or wherein the

marketing features comprise a set of different advertisements; or wherein the marketing

features comprise a set of different products which can be marketed at a common site;

or wherein the marketing features comprise a set of different potential features of a

storefront; or wherein the marketing features comprise a set of different potential

features of a catalog; or wherein the marketing features comprise a set of different

potential features of a shopping experience; or wherein the marketing features comprise

a set of different potential features of a direct mailing; or wherein the marketing features

comprise a set of different potential features of a common promotion.

However, Almasi et al. does disclose clustering users in a database to develop

different marketing strategies/campaigns tailored for each cluster's characteristics (col.

13, lines 13-29; col. 14, lines 44-52). It is old and well known in the art that

presentations, advertisements, product promotions and catalog mailings are specific examples of various marketing strategies/campaigns that can be targeted to different user groups based on the groups' characteristics. Thus, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to have the marketing features comprise specific marketing activities that are old and well known in the art such as advertisements, promotions and direct mailings because each activity caters to different types of user characteristics providing a variety of options, flexibility and wider audience reach for the development of marketing strategies.

8.   Claims 31-39, 45-50 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Almasi et al. (U.S. 6,260,036) and Herz et al. (U.S. 6,571,279).

As per claims 31 and 60, Almasi et al. discloses a method and machine-readable medium of controlling the marketing resources of an Internet site having a real-time user interface during a visit to the Internet site by a particular user, comprising:

providing a data mining engine capable of being trained with training data and capable thereafter of performing inferences relative to the training data (col. 1, lines 46-63; col. 9, lines 20-27; Figure 5; The reference discloses a data mining engine used for training data to learn relationships among the data.);

providing a user database correlating observed characteristics of each one of a set of users with a set of adaptable marketing features, the observed characteristics comprising at least one of: (a) at least one of the user's attributes, and (b) at least one

of the user's preferences (col. 3, lines 20-38; col. 13, lines 13-29; The reference

discloses a user database for correlating user characteristics.);

training the data mining engine with a set of training data comprising the user

database by clustering the users in the database into segments of users with similar

characteristics (col. 2, line 65-col. 3, line 38; col. 13, lines 13-29; The reference

discloses clustering users in a database into user segments with similar

characteristics.);

inputting to the data mining engine a set of user attributes of the particular user

(col. 13, line 63-col. 14, line 52); and, in response thereto, obtaining from the data

mining engine a subset of the adaptable marketing features having the highest

correlation to the set of user attributes by determining which of the segments has

characteristics that are statistically correlated with the set of user attributes; and wherein

the subset of adaptable marketing features is determined based upon the preferences

of users in the user segments statistically correlated to the set of user attributes (col. 13,

lines 13-29; col. 14, lines 44-52; col. 15, lines 7-12; The reference discloses clustering

users in a database to determine the groups of users that are mathematically correlated

to particular marketing strategies based on their specific characteristics.).

Almasi et al. does not expressly disclose obtaining observed characteristics of

the user through an Internet site. However, Almasi et al. does disclose observing and

obtaining characteristics of users such as purchasing patterns, specific account

information and demographics (col. 3, lines 20-38; col. 14, lines 44-52), all of which can

be applied to a user's conduct over the Internet. Additionally, the Internet is an old and

well known medium through which user's browse and purchase items and marketers

offer advertisements and promotions to users (Herz et al., col. 23, lines 64-66). Herz et

al. discloses obtaining observed characteristics of a user through the Internet (col. 14,

line 63-col. 16, line 33). Thus, at the time of the invention, it would have been obvious

to a person of ordinary skill in the art to obtain observed characteristics of a user

through an Internet site because the Internet is such a highly frequented medium by

users, thus providing marketers with ample opportunity for tracking user behavior and

offering marketing features to the user tailored for that behavior.

As per claims 32-39, Almasi et al. does not expressly discloses the method of

claim 31, further comprising:

a presentation to be directed to the particular user or group of users comprising

marketing features contained within the subset of marketing features; or wherein the

marketing features comprise a set of different advertisements; or wherein the marketing

features comprise a set of different products which can be marketed at a common site;

or wherein the marketing features comprise a set of different potential features of a

storefront; or wherein the marketing features comprise a set of different potential

features of a catalog; or wherein the marketing features comprise a set of different

potential features of a shopping experience; or wherein the marketing features comprise

a set of different potential features of a direct mailing; or wherein the marketing features

comprise a set of different potential features of a common promotion.

However, Almasi et al. does disclose clustering users in a database to develop

different marketing strategies/campaigns tailored for each cluster's characteristics (col.

13, lines 13-29; col. 14, lines 44-52). Herz et al. discloses offering various

advertisements, product promotions specifically tailored to a user based on the user's

characteristics (col. 4, lines 37-58; col. 15, lines 38-59; col. 16, lines 22-33).

Additionally, it is old and well known in the art that presentations, advertisements,

product promotions and catalog mailings are specific examples of various marketing

strategies/campaigns that can be targeted to different user groups based on the groups'

characteristics. Thus, at the time of the invention, it would have been obvious to a

person of ordinary skill in the art to have the marketing features comprise specific

marketing activities that are old and well known in the art such as advertisements,

promotions and direct mailings because each activity caters to different types of user

characteristics providing a variety of options, flexibility and wider audience reach for the

development of marketing strategies.

As per claim 45, Almasi et al. does not expressly disclose the method of claim 31

wherein some characteristics of the particular user are not observed through the

interface, but have been previously determined by grouping for the segment to which

the particular user is assigned, whereby the characteristics not observed through the

interface are filled in upon assignment of the particular user to a segment. However,

Herz et al. discloses combining the use of collaborative filtering with data mining and

clustering techniques where the collaborative filtering may associate a characteristic

with a user that was not directly observed of the user but is associated with other users

having other similar characteristics to the user (col. 23, line 10-col. 24, line 36). Thus,

collaborative filtering enables the association of characteristics with a user based on the

user's grouping rather than directly observing the characteristic of the user. At the time

of the invention, it would have been obvious to a person of ordinary skill in the art to

associate a characteristic with a user based on the user's grouping rather than from

direct observation of the user because doing so enables marketers to maximize

marketing strategies by using inferences on customers' behaviors and preferences to

offer promotions specifically tailored to customers without waiting to directly observe the

behavior of the customer (Herz et al., col. 23, lines 59-64).

As per claim 46, Herz et al. discloses the method of claim 32 further comprising:

observing through the interface responses of the user to the presentation (col. 4, lines

37-58; col. 15, lines 38-59; col. 16, lines 22-33; The reference discloses monitoring

users' responses (i.e., banner clickthroughs, purchases) to advertisements and other

presentations provided to a user.). At the time of the invention, it would have been

obvious to observe user responses to presentations because doing so enables

marketers to monitor the effectiveness of their marketing strategies and make changes

to their strategies when user response is low or unfavorable (col. 15, lines 50-54).

As per claim 47, Almasi et al. discloses the method of claim 46 further

comprising: comparing a distribution of the observed responses across the marketing

features of the presentation to corresponding distributions in different ones of the

segments (col. 13, line 63-col. 14, line 52). Almasi et al. does not expressly disclose

detecting errors in the assignment of a particular user to a segment and correcting the

assignment of the user to a different segment in response to the detection of an error.

However, at the time of the invention, it would have been obvious to a person of

ordinary skill in the art to correct the assignment of the user to a different segment in

response to the detection of an error because doing so ensures that users are correctly

associated to segments most resembling their characteristics so that the most

appropriate advertisements are presented to them, thus improving the effectiveness of

the marketing strategies.

As per claim 48, Almasi et al. discloses the method of claim 47 further

comprising: based upon the corrected assignment of the user to a new segment,

obtaining from the data mining engine a subset of the adaptable marketing features

having the highest correlation to the set of user attributes (col. 13, lines 13-29; col. 14,

lines 44-52; col. 15, lines 7-12; The reference discloses clustering users in a database

to determine the groups of users that are mathematically correlated to particular

marketing strategies based on their specific characteristics.).

As per claim 49, Almasi et al. discloses the method of claim 48 further comprising

modifying the presentation based upon the latest subset of marketing features obtained

from the data mining engine, whereby to increase the likelihood of a favorable response

by the user (col. 13, lines 13-18; col. 14, lines 44-52; The reference discloses using a

user's association with a segment to tailor marketing campaigns to the user.).

As per claim 50, Almasi et al. discloses the method of claim 49 further comprising

adding the user and an identification of the user's assigned segment to the user

database (col. 2, lines 51-61; col. 3, lines 20-35; The reference discloses maintaining

user information in a database, including the cluster the user is associated with as well

as other identifying information.).

Allowable Subject Matter

9.   Claims 1, 6, 7, 10-13, 15-17, 19, 20 and 58 are allowed.

Conclusion

10.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

- Lazarus et al. (U.S. 6,430,539) discusses predictive modeling of consumer

  behavior; and

- Fayyad et al. (U.S. 6,374,251) discusses a system for clustering of databases.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to C. Michelle Colon whose telephone number is 703-605-

4251. The examiner can normally be reached Monday – Thursday from 8:30am to

5:30pm and every other Friday from 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tariq Hafiz, can be reached at 703-305-9643.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist whose telephone number is 703-308-

1113.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington D.C. 20231

or faxed to:

703-305-7687   [Official Communications; including After Final

communications labeled "Box AF"]

703-746-7202   [For status inquiries, draft communication, labeled

"Proposed" or "Draft"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal

Drive, Arlington, VA 7th floor receptionist.

cmc
July 9, 2003

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